REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

New claims 9-19 are added by the present amendment. Claims 1-19 are pending in the present application.

I. Objection to the Drawings

The drawings were objected to. This objection is respectfully traversed. The Office Action indicates that "an attachment portion as claimed in claim 4 must be shown or the feature(s) canceled from the claim(s)."

However, support for this claim is shown in the figures and the specification. For example, in Figure 1 of the drawings and in lines 4-37 on page 18 in the specification, the attachment portion is shown and described. Accordingly, withdrawal of this objection is respectfully requested.

II. Rejection under 35 U.S.C. § 102

In the Office Action, at page 3, claims 1-8 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,900,727 to Griffen et al. This rejection is respectfully traversed because Griffen does not teach or suggest that

> said plurality of signal generating members are respectively formed in such a manner that numbers of signal-cycles and signal-intervals in signals generated during a unit rotation of respective signal generating members are different from each other, while products of the numbers of signal-cycles multiplied by the signal-intervals in the signals are generally identical to each other,

as recited in independent claim 1, for example. A similar recitation is provided in independent claim 8.

In a non-limiting example, the present invention is a kit for a rotary encoder that includes a plurality of signal generating members attached to a rotary body in an exchangeable manner, each signal generating member having different numbers of signal-cycles and signal-intervals in signals generated during a unit rotation, and a signal sensing unit arranged close to the signal generating member for sensing a signal generated during rotation. The signal-cycles per unit rotation are determined by the number of teeth or magnetized patterns per unit rotation, and the signal-intervals are determined by the spacing of teeth or magnetized patterns per unit rotation.

Griffen does not teach or suggest that "numbers of signal-cycles and signal-intervals in signals generated during a unit rotation of respective signal generating members are different

from each other, while products of the numbers of signal-cycles multiplied by the signal-intervals in the signals are generally identical to each other," as recited in claim 1 of the present application. In contrast, Griffen discusses different exchangeable drums having different pulses, but the same magnetic pattern pitches (or spacing), as noted in column 11, lines 21-23. In order to maintain the same pitch pattern, the signal-intervals in the signals generated are the same. Griffen, thus, teaches away from the present invention.

Therefore, as Griffen does not teach or suggest that "numbers of signal-cycles and signal-intervals in signals generated during a unit rotation of respective signal generating members are different from each other, while products of the numbers of signal-cycles multiplied by the signal-intervals in the signals are generally identical to each other," as recited in claim 1, claim 1 patentably distinguishes over Griffen. As claim 8 recites material similar to that of claim 1, claim 8 patentably distinguishes over Griffen.

Dependent claims 2-7 depend from independent claim 1 and include all of the features of that claim, plus additional features that are not taught or suggested by the prior art. For example, claim 3 recites that the "plurality of signal generating members have outer diameters generally identical to each other." As stated at column 11, lines 20-23, the "drums have slightly different diameters to insure that all three drums have the same magnetic pattern pitch (or spacing)." The present invention includes multiple signal generating members that have the same outer diameter to fit on the same rotary body without the addition of additional spacing material. For example, claim 5 recites that the "plurality of signal generating members have inner diameters generally identical to each other."

With respect to claim 6, Griffen does not teach or suggest "a signal generating element comprising at least one tooth," as recited in claim 6. The Examiner cites the background of the invention when stating that Griffen discloses at least one tooth. Applicants note that such a citation is not appropriate under 35 U.S.C. § 102. Griffen itself does not disclose "a signal generating element comprising at least one tooth," as recited in claim 6.

Therefore, claims 2-7 patentably distinguish over Griffen.

III. New Claims

New claim 9 recites that the features of the present invention include "each signal generating member having approximately the same outer diameter as the other signal generating members and each including a signal generating element having a signal-generation pitch different from the other signal generating members." Nothing in the reference relied upon teaches or suggests such. It is submitted that the new claim 9, which is different from prior filed

claims distinguishes over the reference relied upon.

New claims 10-19 depend from claim 9 and include the features of claim 9, plus additional features which distinguish over the prior art. For example, claim 12 recites that "the signal generating element comprises at least one tooth, and wherein the products of the number of teeth in each signal generating member multiplied by the pitches between the adjacent teeth of each signal generating member are generally identical to each other"; and claim 13 recites that "the respective products of the total teeth number and the teeth pitches corresponds to the circumferential length of the outer circumferential surface of each of the signal generating members." Nothing in the reference relied upon discusses or suggests such. It is submitted that these new claims distinguish over the reference relied upon.

Conclusion

In accordance with the foregoing, claims 9-19 have been added. Claims 1-19 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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